

# **BCS (Agriculture) Written Syllabus**

## **Bangla, Paper-I**

Marks-100

(For both General and Technical/ Professional Cadre)

- (i) Grammar : 30 marks
- (a) Correction of errors in composition of sentences.
  - (b) Fill in the blanks with appropriate word or group of words.
  - (c) Use of Idioms, Phrases and Proverbs.
  - (d) Transformation of sentences from one form to another, such as simple to compound, complex to compound, compound to complex.
  - (e) Making sentences with selected official Terminology.
- (ii) Amplification of ideas : 20 marks
- (iii) Substance/précis writing : 20 marks
- (iv) Short answer questions on Bangla Language & Literature 30 marks

(Charyapada, Mangal Kavya, Romantic Kavya, Fort William College, Vidyasagar, Bankimchandra Chatterjee, Madhusadan, Mir Mossarraf Hossain, Rabindranath Tagore, Dinobondhu Mittra, Kazi Nazrul Islam, Jashim Uddin, Begum Rokeya, Farrukh Ahmed, Kaikobad, Modern and Contemporary poets, writers and playwrights of Bangla literature)

## **English, Paper-I**

Marks-100

(For both General and Technical/ Professional Cadre)

- (i) Translation from English into Bangla and from Bangla into English. 20+20=40
- (ii) Amplification of Ideas . 20
- (iii) Substance/Précis writing . 15
- (iv) Grammar (use of verb, preposition, voice, narration, correction of errors in composition, use of words having similar pronunciation but conveying different meaning, use of idioms and phrases). 25

## **English, Paper-I**

(For both General and Technical/ Professional Cadre)

Marks-100

(i) Essay (free composition i.e. without hints)	30
(ii) Essay (guided composition i.e. with hints)	30
(iii) Letter Writing (Official/Demi-Official/Memorandum, Business type )	20
(iv) Objective reporting	20

## **Bangladesh Affairs, Paper-I**

Marks-100

(For both General and Professional/ Technical Cadre)

This paper is designed to cover historical, geographical, environmental, social, cultural, political, economic and administrative affairs of Bangladesh. Attention may be given to the following topics:-

- (i) Topographical and demographic features of Bangladesh;
- (ii) Historical background of Bangladesh;
- (iii) Bangladesh Liberation war;
- (iv) Social, Economic and Political life in Bangladesh;
- (v) Art and Literature of Bangladesh;
- (vi) Resources and Conservation: Natural, Flora and Fauna, Mineral;
- (vii) Management of Water and Energy resources;
- (viii) Various Development Strategies and Policies of Bangladesh;
- (ix) Role of Education in human resource development;
- (x) GNP and Per capita income: Contribution of agriculture, industry, commerce and services to GNP.

## **Bangladesh Affairs, Paper-II**

(For both General and Technical/ Professional Cadre)

Marks-100

- (i) The Constitution of Bangladesh;
- (ii) Government of Bangladesh:
  - a) Legislative
  - b) Executive
  - c) Judiciary
- (iii) Foreign Policy, international relations and security strategy of Bangladesh;
- (iv) Role of Political Parties in Bangladesh;
- (v) Administrative set up- Central and local governments;
- (vi) Civil-Military relations in Bangladesh;
- (vii) Role of NGOs in Bangladesh;
- (viii) Empowerment of women in Bangladesh;
- (ix) Political and economic institutions and their accountability;
- (x) Civil Society, democracy and state – building;
- (xi) Reforms in Bangladesh- Administrative, Land and Education;
- (xii) Role of IMF, ADB and World Bank in Bangladesh;
- (xiii) Effect of free market and globalization in Bangladesh.

## **International Affairs**

Marks-100

( For both General and Professional/ Technical Cadre)

- (i) International Affairs- Meaning, Scope and Significance. International Affairs and International Politics: Approaches to the study of International Affairs.
- (ii) Nationalism, Imperialism, Colonialism and Neo-colonialism, Globalization and New World Order.
- (iii) State- Kinds of state, Mode of acquiring state territory, River, Sea and Outer Space.
- (iv) National Power- Meaning and Components.
- (v) Balance of Power.
- (vi) Diplomacy, Diplomatic Envoys, Functions and immunities of diplomatic envoys.
- (vii) Armament and Disarmament: Treaties relating to arms control.
- (viii) Economic instrument of national policy, Tariff, Cartels, Dumping, Quotas and licenses, Loan and grant, Inter-government agent. Barter Commodity Agreement. Pre-emptive buying, Exchange Control, Control of enemy assets.
- (ix) The UNO- The General Assembly, The Security Council, The International Court of Justice-Criminal Court of Justice, The Economic and Social Council and the Development Agenda, Collective Security, Conflictual Issues and peace keeping, RIO Conference (Environment), Kyoto Protocol, Cairo Conference (population), Copenhagen Conference (Social issues) Beijing Conference (Women)
- (x) NATO
- (xi) Non-Aligned Movement.
- (xii) Commonwealth.
- (xiii) The international Politics of South East Asia, Latin America, Middle East and sub-Sahara Region.
- (xiv) Foreign Policies of Bangladesh, India, China, North Korea, Iran, UK, USA, France, Germany, South Africa, Israel, Russia, Pakistan, Poland.
- (xv) Regionalism- Meaning and reasons for forming regional organizations, ASEAN, BIMSTEC, OPEC, OAS, APEC, SAARC, SAPTA, NAFTA, EU, OIC, African Union, GCC.
- (xvi) Financial Institutions- G-8, G-77, LDC, Asian Development Bank, World Bank, WTO, European Union Bank, IMF, Islamic Development Bank.



# Mathematical Reasoning and Mental Ability

Marks-100

(For both General and Professional/ Technical Cadre)

## A. Mathematical Reasoning

The aim is to test the candidates ability to solve problems of elementary mathematics, involving methods and processes of arithmetic, algebra and geometry. The following outline is intended as a guide line :

(i) **Arithmetic:** Simplification. Averages. Greatest Common Divisor and Least Common Multiple. Unitary Method. Percentages: Simple Interest; Loss and Gain; Work and Time. Ratio and Proportion.

(ii) **Algebra:** Simplification. Formulas for Squares and Cubes and their Applications. Polynomials, Remainder Theorem. Factorisation of Quadratic and Cubic Polynomials. Simple Equations. Systems of Simultaneous Linear Equations in Two Unknowns. Graphs of Linear Equations.

(iii) **Geometry:** Basic Theorems (including their consequences) on straight lines, angles, triangles, parallel lines, parallelograms and circles. The Theorem of Pythagorus. Area of triangle.

## B. Mental Ability

The objective of mental ability test is to assess candidates, personal qualities and traits of character based on his academic attainment and life experiences. The following broad areas are likely to be covered-

- (i) Ability to understand language.
- (ii) Decision making ability
- (iii) Ability to measure spatial relationship and direction.
- (iv) Problem solving ability.
- (v) Perceptual ability etc.

**Note :** The answer sheet will be computer readable Form. The candidates are instructed to bring 2B/3B pencil, eraser and ball-point pen.

## ***Agriculture, Paper-I***

Marks-100

- a) Production technology and costing of field crops-** rice, wheat, maize, jute, sugarcane, tea, tobacco, lentil, groundnut, soyabean and mustard. External morphology and desirable qualities of these crops.
- b) Production technology of horticultural crops-** Banana, papaya, pineapple, potato, tomato, cabbage, cauliflower, brinjal, onion, garlic and chili. Post-harvest management (e.g. processing and storage) of these crops.
- c) Importance of irrigation and drainage** for crop production. Merits and demerits of different methods of irrigation. Irrigation seedling in crops. Quality of irrigation water in relation to crop production and soil condition.
- d) Crop nutrition and fertilizer management:** sources and available forms of plant nutrients, fertilizer and manners, judicious application of fertilizers and organic matters in different agro-ecological zones (AEZ) of Bangladesh. Use of Bio-fertilizers in agriculture and water management utilization of agriculture wastes. Scope and importance of bio energy, and generation of Bio-gas.
- e) Major insect pests and diseases** of rice, wheat, jute, sugarcane, potato and mango and their control measures.
- f) Pesticides-** their formulation, mode of action, methods of application residual effects with safety measures. Economic injury level and LD50. Integrated pest management (IPM) - concept, prospects and limitations.
- g) The principles and practices of agricultural extension** with special emphasis on program planning, transfer of technologies, communication, diffusion and leadership. Importance of rural youth, rural women and landless farmers in agricultural extension and their empowerment.

## ***Agriculture, Paper-II***

Marks-100

- i) Plant genetic resources (PGR)-** diversity of PGR and their conservation methods.
- ii) Crop improvement-** introduction, selection, hybridization and mutation breeding. Development of hybrid and modern varieties (MVs). Concepts of variety Act and intellectual property right (IPR), seed certification and variety release.
- iii) Bio technology in Agriculture:** Tissue culture, genetic engineering. GMO and bio safety regulations- environmental, social, legal and ethical issues.

- iv) Plant growth regulators, growth retardants and phytohormones. Ripening chemicals- uses and abuses.
- v) Concept and significance of seed viability and seed vigor. Testing seeds for purity, moisture, germination and vigor. Principles of seed crop production.
- vi) Weed competition and factors affecting crop- weed competition. Allelopathic effects of weeds on crops and vice-versa. Herbicidal weed control in rice, jute, cotton and sugarcane. Integrated Weed Management (IWM).
- vii) Environmental degradation and pollution (soil, water and air pollutions)- causes and impact on Bangladesh Agriculture. Management of drought, flood and soil salinity and other current environmental issues.
- viii) Concept and scope of agro-forestry, present status of forest resources in Bangladesh, possible improvement of present land use system through sustainable agro-forestry. Multi storied tree production system, hill cultivation- SALT practices and their different models.
- ix) Economic importance of fiber, oil, timber, medicine, rubber, narcotic and beverage crop plants and their products. Tapping system, composition and latex coagulation of rubber. Manufacturing process and changes in chemical composition in tea leaves.